

**DRAFT  
ENVIRONMENTAL ASSESSMENT**

**PARKING LOTS CONSTRUCTION FOR PORT ISABEL  
DETENTION CENTER ADMINISTRATION BUILDING**

**BUREAU OF IMMIGRATION AND CUSTOMS ENFORCEMENT  
U.S. DEPARTMENT OF HOMELAND SECURITY  
LOS FRESNOS, CAMERON COUNTY, TEXAS**

**Rio Grande Valley Sector**



Prepared for:  
US Bureau of Immigration and Customs Enforcement  
Department of Homeland Security  
Washington, D.C.

July 2005

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## **EXECUTIVE SUMMARY**

### **Background:**

The Immigration and Customs Enforcement (ICE) of the Department of Homeland Security (DHS) has prepared this Environmental Assessment (EA) for construction of parking lots to serve the new Administration Building at the ICE, Port Isabel Detention Center (PIDC). The PIDC is located in south Texas, approximately four miles east of Bayview, Cameron County, Texas. The PIDC occupies part of a former training base used by the military during the 1940's and 1950's. The ICE has made numerous renovations to the 1940-50's era structures to support the ICE's training and detention activities. With the growth of the services and detainee population at the PIDC, the ICE (formerly the Immigration and Naturalization Service (INS)) drafted a Master Plan to meet the mission of the ICE and provide the necessary support facilities. This master plan identified the need to replace the aging structures with structurally sound, modernized facilities (HDR&A, 1994). To accomplish this, activities have included demolition of former military structures, replacing the primary electrical system, construction of four dormitories, and other support facilities. An Administration Building is currently under construction, to be followed by construction of a main parking lot. In February 1997, a Programmatic Environmental Assessment (PEA) was conducted for the INS to address these activities.

### **Purpose and Need:**

The purpose of this EA is to address the three proposed parking lots that will be constructed for the new Administration Building at the Port Isabel Detention Center (PIDC). The proposed parking lots were one of the components of the INS' 1994 master plan and are included as well in the PIDC's new master plan dated April 16, 1999, that reassessed the PIDC's growth and development (LBA/SF, 1999). All three parking lots collectively encompass 10.7 acres and will provide sufficient vehicular parking for staff and visitors and provide for adequate drainage during rainstorms.

### **Proposed Action and Alternatives:**

The proposed action involves construction of the facility's main parking lot, designed to serve ICE staff and visitors to the new PIDC Administration Building. Two other smaller parking areas are also identified for future needs. All three parking lots, when constructed, would collectively encompass 10.7 acres. The main parking lot, designed for 435 vehicle spaces, will be constructed south of the Administration building, between Avenue B and Mechanic Road (formerly Avenue C). Other alternatives considered included the No Action alternative and a different design and placement of the main parking lot without the two auxiliary lots. These alternatives were eliminated because

they would not provide adequate drainage, and would cause more environmental and structural damage than the proposed and preferred alternative.

### **Environmental Impact of the Proposed Action:**

Impacts to the environment will occur with implementation of the proposed action and include a less than significant short-term increase in noise and particulate air pollution from wind blown dust from construction activities during daytime hours. No long-term, significant adverse effects on the physical environment, geology and soils, historic resources, wildlife, threatened or endangered species, water quality, HTRW and the local socioeconomic resources are expected due to construction of the parking lot. Converting the ground to impervious surface will increase the rate of rainfall runoff but this is not expected to impact the facility's main receiving lateral during peak storm flow stages. Construction of the parking lot will allow for consolidated parking and better traffic flow, and minimize soil erosion and water quality impacts.

### **Conclusions:**

No long-term, significant adverse effects on the physical environment, geology and soils, historic resources, wildlife, threatened and endangered species, air quality and noise, water quality, HTRW and the local socioeconomic resources are expected from construction of the parking lot. Compared to the much larger surrounding watershed, the increases in rainfall runoff from the proposed parking lots will be insignificant and are not expected to impact the facility's main receiving lateral during peak flows. Restrictions referenced in the 1997 PEA regarding no construction in the ocelot corridor and the clearing of brush on PIDC property remain in place in order to minimize effects on wildlife.



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## **1.0 BACKGROUND**

The Bureau of Immigration and Customs Enforcement (ICE) is the organizational element of the Department of Homeland Security (DHS) primarily concerned with the enforcement of immigration and customs regulations. As part of its mission, ICE provides detention facilities for illegal entrants (IE) and criminal aliens in detention facilities. One of these facilities is located in Port Isabel, Texas and is called the Port Isabel Detention Center (PIDC), formerly the Port Isabel Service Processing Center (PISPC).

## **2.0 DESCRIPTION OF THE PROPOSED ACTION**

This environmental assessment (EA) is being conducted to address construction of a main parking lot and two future parking lots designed to serve Immigration and Customs Enforcement (ICE) staff and visitors to the new PIDC Administration Building.

### **2.1 Proposed Alternative**

The project concept drawing (Appendix B page 1) shows the location and layout of the three parking lots that would collectively encompass 10.7 acres. In addition to the Administration Building, currently under construction, ICE proposes to construct a main parking lot that is designed for 435 vehicle spaces and located between Avenue B and Mechanic Road. The two smaller parking lots are not scheduled to be constructed until there is a demand for additional parking space. One of these parking lots is proposed to be located at the southeast corner of the Administration Building on Avenue B and has capacity for 164 vehicles. A second optional parking lot with capacity for 135 vehicles will be located on the south side of the main parking lot (Jacobs, 2004).

Each parking area will be paved with asphalt. Vehicular spaces will be delineated by striping and will have wheel stops. Curbs will encircle the parking lot and islands. The islands will be planted with trees and dense, unfriendly vegetation to discourage pedestrian crossing. Security will be enhanced by pole mounted lights and surveillance cameras. The main parking lot and south optional parking lot will be contoured so that rainfall runoff will flow south through a culvert to a large existing main receiving lateral (drainage ditch) that runs from west to east just outside the facility's south fence line (fig. 4, pg. 6). The parking lot located on the southeast

corner of the Administration Building will drain southwesterly then south to the existing drainage ditch (USACE, 2004).

## **2.2 No Action Alternative**

The No Action alternative would leave the area designated for parking unpaved. During dry weather, vehicle traffic on the unpaved ground would create an air quality problem because of disturbed, blowing soil. During wet weather, rainfall runoff would carry eroding soils into drainage ditches/receiving laterals, temporarily degrading the water quality and silting in drains. It was also noted that if the contour of the natural ground were not altered, runoff would flow towards the Administration Building. Because of these unacceptable impacts, the No Action alternative was rejected.

## **2.3 Other Alternatives**

The original parking lot design in the 1999 Master Plan depicted a semi-circular shape to the front entrance of the Administrative Building. However, during conceptual design analysis of the building and parking lot it was determined that the shape of the parking lot as detailed in the Master Plan would be more costly and impair drainage. The direction of the natural drainage from the area of the Master Plan parking lot would be to the northeast, towards the Administration Building. This design would increase the flow rate towards the building rather than away from it. Also the design would not make efficient use of the available space (Jacobs, 2004). Because the alternative was unable to provide adequate drainage, it was ranked lower than the proposed plan. These impacts were deemed unacceptable; therefore, this alternative was rejected.

## **3.0 PURPOSE AND NEED**

The purpose of this EA is to address the proposed parking lot, and future parking areas, that will be constructed for staff and visitors utilizing the new Administration building at the PIDC. Just as described in the 1997 PEA, the proposed parking lots are one of the components of the PIDC's new master plan, "United States Department of Justice, Immigration and Naturalization Service, INS Port Isabel Service Processing Center, Los Fresnos, Texas, Master Plan", by Louis Berger & Associates, Inc. /Sverdrup Facilities Inc., dated April 16, 1999, that reassessed the PIDC's growth and development. The three parking lots, when fully constructed, will encompass a total of 10.7-acres and provide sufficient vehicular parking for Department of Homeland Security staff and visitors and adequate drainage during rainstorms. Basic project and environmental information in the PEA is incorporated by reference into this document.

In February 1997, a Programmatic Environmental Assessment (PEA) entitled Immigration and Naturalization Service (INS), Port Isabel Service Processing Center, Los Fresnos, Texas, was prepared to address activities at the INS PISPC projected in the INS' Long Range Facility Master Plan for South Texas (USACE, 1997). The master plan was drafted to address the needs and support facilities necessary for the INS (now ICE) to perform their mission. Activities necessary to execute the plan include the demolition of former military structures, replacing the primary electrical system and construction of four dormitories, an Administration Building, parking lots and other support facilities. The PEA inventoried the environmental conditions of

the existing PIDC facility, considered the impacts of projected demolition, construction and other activities at the facility over the next several years. These projected activities were coordinated with the appropriate resource agencies to minimize or avoid impacts to human health and the environment. The results of the coordination and recommendations for the projected activities were incorporated into the PEA.

#### 4.0 PROJECT LOCATION

The PIDC is located in south Texas, approximately four miles east of Bayview, Cameron County, Texas (Figures 1, 2 below and 3, 4 on pages 5-6). Construction of the Administration Building parking lot will take place on the grounds of the ICE's PIDC, in the area bounded by Avenue B, the Entrance Road, Mechanic Road and south of the Administration Building (Appendix B, page 1).



Figure 1. PIDC project area location map.



Figure 2 – Aerial Photo showing the Project Site for the Main Parking Lot.

## **5.0 AFFECTED ENVIRONMENT**

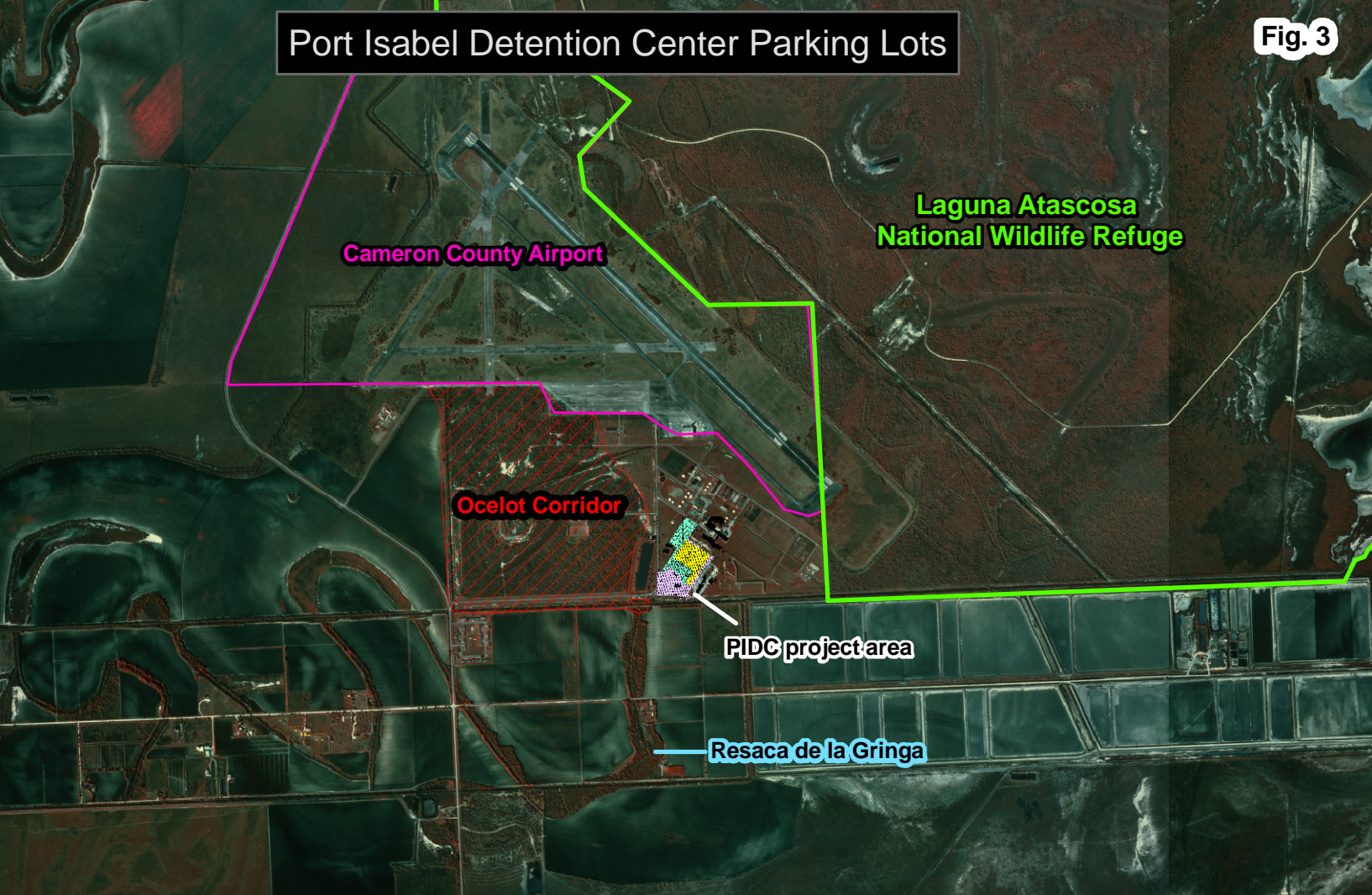
### **5.1 Previous NEPA Coordination**

The 1997 PEA discussed the Affected Environment of the facility including a history of the facility, the physical environment, geology and soils, historic resources, wildlife, threatened and endangered species, air quality and noise, water quality, hazardous, toxic and radioactive waste (HTRW) and socioeconomic resources. A Finding of No Significant Impact was signed for the document, concluding that upgrades to the facility would not have significant adverse effects on the quality of the human environment and that an Environmental Impact Statement was not warranted (USACE 1997). This EA incorporates by reference the data and information presented in the PEA, and in the following sections addresses only change in status of various resources covered in the PEA and resources of concern for the proposed action of this EA.

As referenced in the 1997 PEA, in order to insure that present and future actions do not have any adverse effects on wildlife species in the area, especially threatened and endangered species and migratory birds, the restriction from development in the ocelot corridor will continue as coordinated in the PEA. If brush is to be cleared at other locations on PIDC facility lands, that clearing will be done during the months of September through February to avoid peak bird nesting periods.



Port Isabel Detention Center Parking Lots



Cameron County Airport

Laguna Atascosa  
National Wildlife Refuge

Ocelot Corridor

PIDC project area

Resaca de la Gringa







# Port Isabel Detention Center Parking Lots

Fig. 4

Ocelot Corridor

## PIDC Parking Lots

-  Ocelot Corridor
-  Main Parking Project Limits
-  Main Parking Lot
-  Future Parking Options

Main Receiving Lateral

## **5.2 Compliance Update**

Periodically, new guidance and policy are issued to adequately address existing Statutes and Executive Orders (EO). Section 5.3 Resource Considerations and section 5.3.6 Environmental Justice contain reference to Executive Orders that may have been inadequately addressed since the February 1997 PEA was produced, along with the requirements for compliance with each, which are incorporated in this EA.

## **5.3 Resource Considerations**

Federal Compliance with Pollution Control Standards (EO 12088). Federal agencies are responsible for ensuring that all necessary actions are taken for the prevention, control and abatement of environment pollution with respect to Federal facilities and activities under control of the agency. Upgrading the PIDC facility has improved environmental and human health conditions at the facility by properly disposing of hazardous material, removing leaking underground storage tanks and impacted soils, and removing health hazards such as asbestos and lead materials. A storm water prevention plan (SWPP) will be prepared prior to construction that will include methods to control erosion and soil transport.

### **5.3.1 Existing Conditions**

The 10.7 acres project area proposed for PIDC parking lots has been maintained since the 1940s and consists of open mowed fields that are void of any trees, brush or manmade structures. The topography of the proposed parking areas is relatively flat with very little relief (site photos 1, 2 pages 8 and 10). The main parking area, and an additional parking area cited for construction in the future, are located on the south side of the new Administration Building between Avenue B and Mechanics Road (formerly Avenue C). An emergency generator used as a backup power source for the Automotive Garage is located next to this area, across Mechanic Road from the Garage. There are no above or below ground fuel storage tanks associated with the emergency generator. A small office and armory are adjacent to the proposed southern parking lot boundary. A third parking area that is slated for construction if the demand for parking increases, takes in the northeast corner of Fifth Street and Avenue B. The project area is part of a mowed field and has been under some form of maintenance since the 1940's. These areas are currently being used for parking by construction workers and PIDC staff, a staging area for construction materials and equipment, and for mobile trailers used as temporary construction offices.

### **5.3.2 Historic Properties**

Most of the World War I and II era structures on the PIDC facility have been demolished, except seven structures including the water and sanitary systems. Historically, there have been no structures on the land delineated for the proposed parking lots. The military's Emergency Response Team originally used a small building just outside the southern periphery of the proposed parking lot. It has since been renovated for use as office space and is adjoined by a newly constructed armory (LBA/SF, 1999). There are no historic property concerns within the footprint of the parking lot.

### 5.3.3 Threatened and Endangered Species

Since 1997 when the PEA was coordinated with the U.S. Fish and Wildlife Service (USFWS), the American peregrine falcon (Falco peregrinus anatum) and the Arctic peregrine falcon (Falco peregrinus tundrius) have been dropped from the Federal list of Endangered Species but are listed as Endangered by the Texas Parks and Wildlife Department (TPWD, 2002). An updated federally threatened and endangered species list can be found in Appendix D of this document.

The restriction of clearing brush in the ocelot corridor on the west side of the facility (fig. 4, pg. 6) continues to be in effect. Any brush cleared on other locations on the facility outside of the ocelot corridor will be done during the months of September through February to avoid peak wildlife nesting periods. These restrictions will not affect construction or use of the proposed parking lots and activities on the parking lots will not affect the wildlife habitat.



Site Photo 1. Looking south from the northwest corner of proposed parking lot.

### 5.3.4 Soils

The Geology and Soils section from the 1997 PEA applies to current existing conditions and is reproduced here for reference. The PIDC is situated on the Holocene deltaic plain of the Rio Grande River and is traversed by the Resaca de la Gringa, a relict distributary channel of the Rio Grande (Brown *et al*, 1980). Since approximately 5,000 B.P. (before present), the active Rio Grande delta has altered its location at least twice, shifting between northern Cameron County and its current position. According to the soil survey of Cameron County (USDA, 1977), the soil association which exists in the project area is the Laredo-Olmito association: nearly level to



gently sloping, well drained and moderately well drained silty clay loams and silty clays. Closer investigation reveals that four different soil types exist in the project area: Laredo-Urban land complex, Laredo silty clay loam, Lomalta clay, and Olmito-Urban land complex. Most of the facilities exist on the Laredo-Urban land complex, however, the government housing is located on the Olmito-Urban land complex. According to the U.S. Department of Agriculture, Natural Resources Conservation Service, the Laredo silty clay loam is a unique farmland, however this is located in the area designated as an ocelot corridor and a brush covered area restricted from development.

### **5.3.5 Water Quality and HTRW**

The 1997 PEA included findings of a hazardous, toxic and radioactive wastes (HTRW) survey that identified several sources of hazardous waste at various sites around the PIDC that affected the shallow ground water and surface water. These sources included leaking transformers with high levels of PCBs, cracked lead-acid batteries, drums of unknown fluids, leaking fuel storage tanks, buried munitions and explosive waste. These sources have been properly disposed offsite and the contaminated media, including soil, removed. It is expected that the quality of groundwater, surface water and rainfall runoff from the facility will continue to improve from the removal of the hazardous materials and contaminated soils. A detailed HTRW assessment can be found in Appendix A of the 1997 PEA.

### **5.3.6 Socioeconomics**

The local socioeconomic conditions have improved with the demolition of dilapidated structures and construction of new buildings by creating job opportunities and increasing the support from local services. The expansion of detainee capacity has required the hiring of additional guards, administrative staff and support services. The facility's dilapidated personnel housing area on the south side is no longer in use. The increase in facility staff and construction workers also present a demand for housing in the surrounding area. In addition, four new dormitories that can house 200 detainees each have greatly improved the health and safety of the living conditions for the detainees.

### **5.3.7 Environmental Justice**

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) directs Federal agencies and departments to make achieving Environmental Justice a part of their mission to the greatest extent practicable and permitted by law. These actions should be consistent with the principles presented in the National Performance Review report. Information is to be collected for assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. Assessments are also to be conducted on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The PIDC property is located in a remote area of the Rio Grand Valley that is not adjacent to minority residences, businesses, or mainstay food sources. Therefore, construction of parking lots on the PIDC property will not cause adverse environmental or human health risks to minority populations.

## 5.4 Hydrology & Hydraulics

### 5.4.1 Hydrology

Hydrologic surface characteristics for the main and two future unpaved parking lot areas were obtained from a site visit. The surface area consists of a low infiltration soil type with 2 to 4 inch tall range grass. There are no significant depressions allowing for significant rainfall runoff surface storage (see Site Photos 1 & 2 pages 8 & 10). Rainfall runoff computations in cubic feet per second (cfs) were derived with the Rational Method. The Rational Method is described thoroughly in “Texas Department of Transportation (TxDOT) Hydraulic Design Manual, March 2004, Chapter 5. The Rational Method is very suitable for areas less than 200 acres including parking lot areas. The Rational Method to compute rainfall runoff requires a drainage Area in acres, Runoff Coefficient, and Rainfall Intensity in inches per hour. The Area used for the existing parking lot is 10.7 acres and consists of the area south of the Administration building and between Avenue B and Mechanic Road. A Runoff Coefficient of 0.38 was derived based on the hydrologic surface characteristics from the project site visit and from procedures in the respective TxDOT Hydraulic Manual. The Rainfall Intensity for the unimproved project site equals 2.45, 3.23, and 3.75-inches per hour for the 2, 5, and 10-year frequencies respectively. Appendix C describes the Rainfall Intensity derivation and other procedures in more detail. The resulting rainfall runoffs for the existing unpaved parking lot area equal 10, 13, and 15-cfs corresponding to the 2, 5, and 10-year frequencies, respectively.



Site Photo 2. Looking south from northeast corner of proposed parking lot. The main receiving lateral is located in background beyond the perimeter fence and runs parallel to the shrub line.

### **5.4.2 Storm Water**

Currently, sheet flow from rain events generally runs from the southwest to northeast. Water flows into a series of small onsite lateral swales that connect to an existing large main receiving lateral (Appendix B, pg. 1, 4) on the south side of the facility. This man-made ditch runs east to the Laguna Madre. The main receiving lateral near the facility is usually dry, except during a rain event. The grade of the existing unimproved parking lot area is relatively flat with little relief. The conceptual design of the parking lot will change the contour of the area, rerouting storm water to the south, away from the Administration Building (Appendix B pg. 4 Drainage Site Plan). A Storm Water Pollution Prevention Plans (SWPPP) will be prepared by the contractor prior to construction to minimize pollution of waters due to soil erosion, siltation and associated contaminant transport during rain events. The SWPPP requires the use of structural and non-structural features (such as Best Management Practices) to divert and slow down sheet flow to minimize sediment transport during and after construction. Erosion controls will stay in place until after construction has been completed and soils have stabilized. Some of the SWPPP features may be designed to remain as permanent features.

## **6.0 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION**

### **6.1 Effects on Government Installations**

Construction of the parking lot for staff and visitors represents a significant improvement over the current parking situation that consists of parking on undeveloped mowed grounds between construction zones. The improved parking lots will allow for consolidated parking, better traffic flow at the facility, and minimize soil erosion and water quality impacts.

### **6.2 Effects on the Environment**

No significant adverse effects on the physical environment, geology and soils, historic resources, wildlife, threatened and endangered species, air quality and noise, water quality, HTRW and the local socioeconomic resources are expected due to construction or use of the parking lots.

### **6.3 Hydrology and Hydraulics**

The hydrologic surface characteristics for the improved parking area include an asphaltic surface. For rainfall runoff comparisons, the same 10.7-acre area size for unimproved existing conditions was used for the future conditions. The 10.7 acres for future conditions includes 2.6 acres of permanent unimproved area and 1.4 acres of optional parking spaces. Rainfall runoff was computed with the Rational Method with and without the optional parking spaces. A Runoff Coefficient of 0.95 was applied to the asphaltic surface area and was derived from the TxDOT Hydraulic Design Manual. The Rainfall Intensity for the improved project site equals 4.16, 5.48, and 6.32-inches per hour for the 2, 5, and 10-year frequencies, respectively. Appendix C describes the Rainfall Intensity derivation and other procedures in more detail. The resulting rainfall runoff for future conditions without the 1.4 acres of optional parking area equals 30, 40, and 46-cfs corresponding to the 2, 5, and 10-year frequencies, respectively. The resulting rainfall runoff for future conditions with the 1.4 acres of optional parking area equals 35, 45, and 52-cfs corresponding to the 2, 5, and 10-year frequencies, respectively. Rainfall runoff increases

for future conditions with the optional parking are therefore approximately 25, 32, and 37-cfs corresponding to the 2, 5, and 10-year frequencies, respectively. Compared to the much larger surrounding watershed, the increases in rainfall runoff from the proposed parking lots will be minor and are not expected to impact the facility's main receiving lateral during peak flows. Therefore, the proposed parking lot construction will not increase flood hazards at the facility or inundate the receiving drainage canal.

#### **6.4 Threatened and Endangered Species**

No impacts to threatened and endangered species or migratory birds are expected due to construction of the PIDC parking lots. Restrictions referenced in this EA and the 1997 PEA are in place to protect the ocelot corridor and limit brush clearing to September through February in order to avoid disturbances during peak nesting periods.

#### **6.5 Cumulative Impacts**

An assessment of cumulative impacts takes into consideration the consequences that past, present, and reasonably foreseeable future projects had, have, or will have on an ecosystem.

The PIDC occupies part of the Laguna Madre Gunnery Range (LMGR), a military base associated with the Harlingen Army Air Field used by the Army Air Corps in the 1940's and the Navy and Air Force in the 1950's. To support the training role of the base, 13 ground firing ranges were constructed along with a maintenance hanger, control tower, runways and barracks to house students and staff. The amount of firing ranges (ground to ground, ground to air and air to ground) necessitated the acquisition of a large tract of land and air space. The Buena Vista Grant at the current PIDC site was selected for its proximity to the shallow waters of the Laguna Madre. Flexible gunnery training ended shortly after the surrender of Japan at the end of WWII followed by the dismantling of much of the infrastructure. In 1949 the Laguna Atascosa National Wildlife Refuge was created when 8,486 acres of the former LMGR were turned over to the Department of the interior for wildlife conservation. In 1955 the Navy obtained a portion of the former LMGR and established the Port Isabel Auxiliary Naval Air Station (PIANAS), a part of which was used jointly by the Air Force. During the early 1960's, control of approximately 345 acres and associated facilities (including resident housing and various administrative and support buildings) was turned over to the Department of Justice, Immigration and Naturalization Service (INS) now called ICE. In 1963 the remaining 815 acres including the hanger, control tower, airfield runways, and associated airfield facilities were turned over to Cameron County for the Port Isabel airport.

The INS established a Border Patrol Training Facility and Detention Center in the early 1960's and immediately undertook major renovations to the facilities and did so again in 1981 when the PIDC was expanded. In 1996 a new border patrol station was constructed. The current master plan calls for the demolition of former military structures, replacing the primary electrical system, and the construction of four dormitories, an administration building and various support buildings. This master plan construction was addressed in the 1997 PEA. Currently, the structures that have been built include the four dormitories, the administration and processing buildings, the armory and the weekend warehouse. This EA addresses the updates to the planned parking lot construction first outlined in the 1997 PEA.

Foreseeable projects in the project area include those projects included in the master plan not completed. Other projects outside the PIDC area would most likely be located in the populated areas in and around the communities of Port Isabel (approximately 10 miles to the southeast), Laguna Vista (approx. five miles to the southeast) and Bayview (four miles to the southwest). Projects in these areas are likely to involve impacts to which the PIDC project lacks. The area surrounding the PIDC historically has been used as agricultural cropland, and it is assumed that it will remain so for the foreseeable future.

## **6.6 Unavoidable Adverse Environmental Impacts**

Some unavoidable impacts to the environment will occur with implementation of the proposed action. However, most of the impacts are considered either insignificant or short term. Noise from construction activities would occur during daytime hours. The construction site is in a remote area and, therefore, would not disturb any residential areas. However, detainees housed at the facility would hear an increase in noise from the construction during the daytime and especially during outdoor activities (USEPA, 1974). The detainees are generally transient; held at the facility for the length of time it takes to be processed through the ICE system to be removed or released. This length of detention averages 45 days but may last as long as two years (LBA/SF, 1999). A temporary increase in particulate air pollution will occur primarily from the disturbance of soil during construction and from wind blown dust. Use of nonrenewable energy resources is unavoidable, but the amount used would be insignificant when weighed against the activities. Construction of the parking lot will remove ten plus acres from possible agriculture use, decrease permeable surfaces and increase the runoff rate. With increased runoff it is expected that an increase in oil and dirt from the parking lot will also occur. However this increase in runoff rate would be minimal considering the scale of the project and current environmental conditions and therefore would not significantly impact the project area. Furthermore, the project area has been a mowed and maintained field since the 1940's, and its conversion to a different use, such as agricultural cropland, is not likely in the foreseeable future.

## **6.7 Irreversible and Irretrievable Commitment of Resources**

Irreversible environmental changes that will occur from construction of the parking lot include consumption of material resources, natural resources, energy resources, and human resources. Material resources would include concrete, asphalt, steel, timber and paint. Natural resources would include the loss of approximately 10.7 acres of mowed open field for other uses, if all three parking lots are built. Irretrievable energy resources will include petroleum-based products such as diesel and gasoline, natural gas and electricity. Use of human resources for construction of the parking lot is an irretrievable loss but is considered beneficial because it will create employment opportunities.

## **7.0 RELATIONSHIP OF PLAN TO ENVIRONMENTAL REQUIREMENTS**

### **7.1 1997 Compliance**

The 1997 PEA was prepared to satisfy the requirements of all applicable environmental laws and regulations, and was prepared using the Council on Environmental Quality (CEQ) National Environmental Policy Act regulations (40 CFR Part 1500). The requirements for compliance



with each of the laws and regulations are incorporated into this EA from the 1997 PEA by reference. The parking lots proposed for construction in 2005 are within the footprint of the plan coordinated in 1997. As such, coordinated compliance requirements are still valid.

## **8.0 PUBLIC INVOLVEMENT**

### **8.1 Agency Coordination**

The draft EA will be sent to Federal and state resource agencies, including the Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, Texas Commission on Environmental Quality, State Historic Preservation Officer, Natural Resource Conservation Service, the Texas General Land Office, and the U.S. Environmental Protection Agency. Correspondence received from these agencies concerning the draft EA can be found in Appendix A of the final EA.

### **8.2 Public Involvement**

This draft EA will be made available for public review at local libraries, on the Galveston District internet and the Notice of Availability will be posted in the local newspapers and mailed to individuals and organizations that have previously expressed an interest in this project.

### **8.3 Notice of Availability**

#### **Notice of Availability of Draft Environmental Assessment**

Interested parties are hereby notified that the Department of Homeland Security's Bureau of Immigration and Customs Enforcement has prepared a draft Environmental Assessment (EA) in accordance with the National Environmental Protection Act (NEPA), Public Law 91-190, and regulations for implementing the Procedural Provisions of the NEPA, 40 Code of Federal Regulations 1500-1508.

#### **DRAFT ENVIRONMENTAL ASSESSMENT**

#### **PARKING LOTS CONSTRUCTION FOR PORT ISABEL DETENTION CENTER ADMINISTRATION BUILDING**

#### **BUREAU OF IMMIGRATION AND CUSTOMS ENFORCEMENT U.S. DEPARTMENT OF HOMELAND SECURITY LOS FRESNOS, CAMERON COUNTY, TEXAS**

The Galveston District of the US Army Corps of Engineers (USACE), on behalf of the Bureau of Immigration and Customs Enforcement (ICE), has prepared this EA for the construction of three parking lots to service agency staff and the visiting public.

The proposed project consists of construction of a main parking lot and two future parking lots. When completed, all three parking lots would collectively encompass 10.7 acres. The main parking lot is designed for 435 vehicle spaces. The two smaller parking lots are not scheduled for construction until additional space is warranted and will have a combined additional capacity of 299 vehicular spaces. Each lighted parking area will be paved, striped, landscaped, and contoured to divert rainfall runoff away from the Administration Building.

A copy of the draft EA is available for review at the Brownsville Public Library (2600 Central Boulevard, Brownsville, TX 78520), or can be downloaded from the U.S. Army Corps of Engineers, Galveston District website at <<http://www.swg.usace.army.mil/>> and the AE Resources Center at <<http://aerc.swf.usace.army.mil/Pages/Publicreview.cfm>>. Copies are also available from, and comments should be submitted in writing to, Ms. Carolyn Murphy, Chief, Environmental Section (PE-PR), U.S. Army Corps of Engineers, 2000 Fort Point Road, Galveston, Texas 77550. Comments should be submitted by August 30, 2005.

## 9.0 References

The following references supplement the 1997 PEA references.

- Brown, L.F. Jr., J.L. Brewton, T.J. Evans, J.H. McGowen, W.A. White, C.G. Groat, and W.L. Fisher. 1980. *Environmental Geologic Atlas of the Texas Coastal Zone: Brownsville-Harlingen Area*. Bureau of Economic Geology, The University of Texas at Austin.
- Jacobs, J.E. (Jacobs). 2004. Main Parking Lot and Entry Road, Port Isabel Detention Center, Los Fresnos, TX.; Conceptual Site Plans. 30 September 2004.
- Louis Berger & Associates, Inc./Sverdrup Facilities Inc. (LBA/SF). 1999. *United States Department of Justice, Immigration and Naturalization Service, INS Port Isabel Service Processing Center, Los Fresnos, Texas, Master Plan*. April 16, 1999.
- Texas Parks and Wildlife Department (TPWD). 2002. Annotated County Lists of Rare Species. October 31, 2002.
- United States Army Corps of Engineers (USACE). 1995. EP 1165-2-1, Digest of Water Resources Policies and Authorities. 1996.
- United States Army Corps of Engineers (USACE). 1997. Programmatic Environmental Assessment, Immigration and Naturalization Service(INS), Port Isabel Service Processing Center, Los Fresnos, Texas. February 1997.
- United States Army Corps of Engineers (USACE). 2004. "Design and Construction Specifications, Health Care Facility, Processing and Administration Buildings, INS Port Isabel SPC, Los Fresnos, TX.". 7 September 2004.
- United States Department of Agriculture (USDA). 1977. Soil Survey of Cameron County, Texas. Soil Conservation Service, in Cooperation with the Texas Agricultural Experiment Station. Issued May 1977.
- United States Environmental Protection Agency (USEPA). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Publication No. 550/9-74-004, Washington, DC, March 1974.

## **10.0 ACRONYMS AND ABBREVIATIONS**

CEQ	Council on Environmental Quality
cfs	cubic feet per second
DHS	Department of Homeland Security
EO	Executive Order
ER	Engineers Regulation
HTRW	Hazardous, Toxic and Radioactive Waste
ICE	Immigration and Customs Enforcement
IE	Illegal Entrants
INS	Immigration and Naturalization Service
LMGR	Laguna Madre Gunnery Range
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PEA	Programmatic Environmental Assessment
PIANAS	Port Isabel Auxiliary Naval Air Station
PIDC	Port Isabel Detention Center
PISPC	Port Isabel Service Processing Center
TPWD	Texas Parks and Wildlife Department
TxDOT	Texas Department of Transportation
EA	Environmental Assessment
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

## 11.0 List of Preparers.

Name	Degree	Professional Discipline	Years of Experience
Morten, Kristy USACE, Galveston	B.S., Biology	Environmental Specialist	24
Terneny, Tiffany USACE, Galveston	Ph.D., Archeology	Archeologist	13
Pena, Justo USACE, Galveston	B.S., Engineering	Hydraulic Engineer	30
Ernestine Brown-Roach USACE, Galveston	B.S., Engineering	Civil Engineer	20
Patterson, Patience USACE, Fort Worth	MA, Phil., Archeology BA & MA, Anthropology	Archeologist / Environmental Planner	30
Gable, Mark CBP, Regional		Environmental Officer	21
Feeney, Kevin CBP, HQ	B.S., Urban Planning MPA, Urban Planning	Environmental Planning	20+
Jones, Seth USACE, Galveston	B.S., Biology MS, Marine Resource Management	Environmental Specialist	3

## **APPENDIX A**

### **INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING CORRESPONDENCE**

## **Interagency and Intergovernmental Coordination List**

### **State Agencies**

Mr. Mark Fisher  
Texas Commission on Environmental Quality  
Bldg. F, MC-150  
12100 Park 35 Circle  
Austin, Texas 78753

Executive Director  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744

Tom Calnan  
General Land Office  
1700 North Congress Avenue  
Austin, Texas 78701

Raymond Mathews  
Environmental Section  
Texas Water Development Board  
1700 N. Congress Avenue  
Austin, Texas 78701

Raul Cantu  
Texas Department of Transportation  
Transportation Planning & Programming  
Division - Multimodal Section  
125 E. 11th Street

Dr. Larry D. Butler  
State Conservationist  
USDA - NRCS  
101 South Main  
Temple, TX 76501-7602

Robert W. Spain  
Assistant Director for Resource Protection  
TP&WD  
4200 Smith School Road  
Austin, Texas 78744-3291

Leslie Savage  
Railroad Commission of Texas  
Environmental Services  
P.O. Drawer 12967, Capitol Station  
Austin, Texas 78711

State Historic Preservation Officer  
Texas Historical Commission  
105 W. 16<sup>th</sup> Street  
Austin, Texas

Honorable Rick Perry  
Governor of Texas  
P.O. Box 12428  
Austin, Texas 78711

Tom Adams  
Governor's Office of Budget & Planning  
State Single Point of Contact  
1100 San Jacinto, Room 441A  
Austin, Texas 78701

Woody Woodrow  
Regional Program Leader,  
Resource Protection Division  
TPWD  
1502 Pine Drive (FM 517)  
Dickinson, Texas 77539

Gary Powell  
Texas Water Development Board  
Environmental Systems Section  
P.O. Box 13231  
Austin, Texas 78711

Lee Munz, Planner  
TX State Soil and Water Conservation Board  
P.O. Box 658  
Temple, Texas 76503-0658

## **Federal Agencies**

Allan Strand  
U.S. Fish and Wildlife Service  
6300 Ocean Drive  
CESS Bldg, Room 113  
Corpus Christi, Texas 78412

Mike Jansky  
NEPA Compliance Section (6EN-SP)  
US Environmental Protection Agency  
1445 Ross Ave, Suite 1200  
Dallas, Texas 75202-2733

Rusty Swafford  
National Marine Fisheries Service  
4700 Avenue U  
Galveston, Texas 77551

Jane B. Watson, Ph.D.  
Chief, Ecosystems Protection Branch  
U.S. Environmental Protection Agency  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Ernesto Reyes  
U.S. Fish and Wildlife Service  
USFWS Rt. 2  
P.O. Box 202-A  
Alamo, Texas 78516





REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
GALVESTON DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 1229  
GALVESTON, TEXAS 77553-1229

July 15, 2005

Environmental Section

Mr. Ernesto Reyes  
U.S. Fish and Wildlife Biologist  
USFWS  
Rt. 2 Box 202-A  
Alamo, TX 78516

Dear Mr. Reyes:

This letter is in regard to the planned construction of a main and two future optional parking lots to serve the new Administration Building at the Department of Homeland Security's Immigration and Customs Enforcement (ICE) Port Isabel Detention Center (PIDC). The PIDC is located in south Texas, approximately four miles east of Bayview, Cameron County, Texas and just south of the Cameron County Airport.

An environmental assessment (EA) is being prepared to supplement the February 1997 Programmatic Environmental Assessment (PEA) conducted for ICE (formerly the Immigration and Naturalization Service) to address these activities. All three parking lots would collectively encompass 10.7 acres and provide sufficient vehicular parking for staff and visitors and provide for adequate drainage during rainstorm events. To the west and outside of the project area boundaries is an area designated as an ocelot corridor. Enclosed for your review are 2 maps showing the project area and the adjacent ocelot corridor.

The overall conclusion of the 1997 PEA and the supplementary EA is that this work would not result in any adverse impacts on federally listed threatened or endangered species or critical habitat. I am hereby requesting your written concurrence, pursuant to 50 CFR 402.13, that the proposed action is not likely to adversely affect listed species or critical habitat under your jurisdiction.

We appreciate your continued cooperation in allowing us to fulfill our responsibilities under the Endangered Species Act. Should you need additional information or have any questions please call Mr. Seth Jones at (409) 766-3068 or Ms. Kristy Morten at (409) 766-3195.

Sincerely,

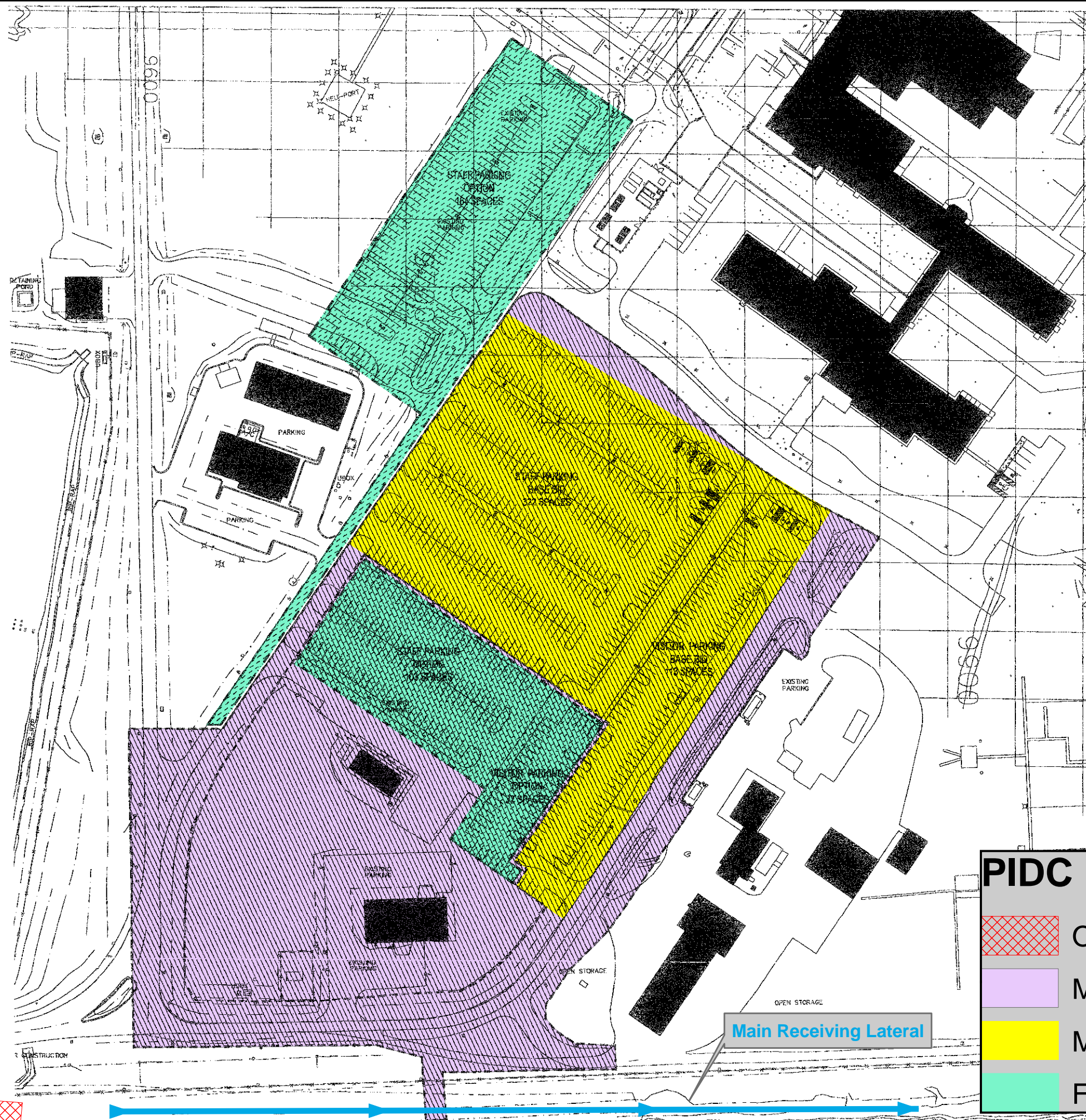
Carolyn Murphy  
Chief, Environmental Section

## **APPENDIX B**

### **MAIN AND FUTURE OPTIONAL PARKING SITE PLANS**




# Ocelot Corridor



# K

## PIDC Parking Lots

- 
- Ocelot Corridor
  - Main Parking Project Limits
  - Main Parking
  - Future Parking Options







GENERAL NOTES

1. THIS DRAWING IS A CONCEPT PLAN (GENERAL ARRANGEMENT) OF THE PLANNED MAIN PARKING LOT AND ENTRY ROADS. CONTRACTOR SHALL FIELD VERIFY PLANNED LOCATIONS OF EDGES OF PAVEMENT, DRAINAGE STRUCTURES, LIGHT POLES, SECURITY CAMERAS AND OTHER PROJECT ELEMENTS TO ENSURE COORDINATED DETAIL DESIGN AND CONSTRUCTION.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITIES, AND DIMENSIONS WITHIN THE LIMITS OF WORK.
3. ALL PARKING AREAS SHALL BE ASPHALT PAVEMENT UNLESS OTHERWISE INDICATED.
4. MECHANICS ROAD SHALL BE WIDENED TO 24' WIDE UNDER THE BASE BID AS SHOWN ON PLANS.
5. CONTRACTOR SHALL PROVIDE WHEEL STOPS, STRIPING, HANDICAP PARKING AND TRAFFIC CONTROL SIGNS, AND RAMPS AS REQUIRED BY FEDERAL OR STATE REGULATIONS, TECHNICAL REQUIREMENTS AND DESIGN GUIDELINES. IN THE EVENT OF CONFLICT BETWEEN THE REQUIREMENTS, COMPLY WITH THE MOST STRINGENT REQUIREMENTS.

KEYED NOTES

- 1 PROJECT LIMITS - BASE BID
- 2 PROJECT LIMITS - OPTION
- 3 CONCRETE CURB AND WALK
- 4 NOT USED
- 5 PARKING LOT ISLANDS SHALL BE PLANTED WITH A MINIMUM OF TWO TREES AND LOW LYING SHRUBS.
- 6 CONTRACTOR SHALL PLANT THE ISLAND WITH DENSE BARRIER VEGETATION, SHRUBS AND TREES (CACTUS, PALMS, MESQUITE, YUCCA) TO INHIBIT PEDESTRIAN CROSSING. MEDIAN SHALL BE MOUNTED 18" HIGHER THAN SIDEWALK.
- 7 LIGHT POLE AND FIXTURE
- 8A SECURITY CAMERA MOUNTED ON POLE (BASE BID)
- 8B SECURITY CAMERA MOUNTED ON POLE (OPTION)
- 9 EXISTING ROADWAY, PARKING AREA, DRAINAGE STRUCTURE TO BE DEMOLISHED
- 10 SECURITY CAMERA MOUNTED ON POLE (NIC)
- 11 EXISTING TREE TO BE REMOVED
- 12 SECURITY CAMERA MOUNTED ON BUILDING (NIC)
- 13 SWALE AND CULVERT INDICATED AS PART OF NEW ADMINISTRATION BUILDING PROJECT ARE NO LONGER REQUIRED. COORDINATE WITH ADMINISTRATION BUILDING PROJECT.

LEGEND

- PROJECT LIMITS - BASE BID
- PROJECT LIMITS - OPTION
- LIGHT POLE - 2 LUMINAIRE
- LIGHT POLE - 1 LUMINAIRE
- SECURITY CAMERA MOUNTED ON POLE
- EXISTING BUILDINGS TO REMAIN AND NEW BUILDINGS UNDER CONSTRUCTION



Main Parking Lot and Entry Road

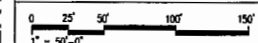
Port Isabel Detention Center  
Los Fresnos, TX

U.S. Department of Homeland Security  
Bureau of Immigration and Customs Enforcement  
Washington, DC



United States Army Corps of Engineers  
Galveston District

GRAPHIC SCALES



NO. DATE REVISION


APPROVALS

PROJECT NO.	DRAWN BY	CHECKED BY	DATE
F3W50609	JCH	RGW	7-1-04
TITLE			

CONCEPT SITE PLAN

DISCIPLINE	SHEET TYPE	SEQUENCE
C	1	01

SHEET 2 OF 4










GENERAL NOTES

1. THIS DRAWING IS A CONCEPT SITE PLAN (GENERAL ARRANGEMENT) OF THE PLANNED MAIN PARKING LOT AND ENTRY ROADS. CONTRACTOR SHALL FIELD VERIFY PLANNED LOCATIONS OF EDGES OF PAVEMENT, DRAINAGE STRUCTURES, LIGHT POLES, SECURITY CAMERAS AND OTHER PROJECT ELEMENTS TO ENSURE COORDINATED DETAIL DESIGN AND CONSTRUCTION.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITIES, AND DIMENSIONS WITHIN THE LIMITS OF WORK. SOME UTILITIES DEPICTED ON THIS DRAWING ARE NOT TO SCALE OR DISPROPORTIONATELY LARGE.
3. ALL PARKING AREAS SHALL BE ASPHALT PAVEMENT UNLESS OTHERWISE INDICATED.
4. MECHANICS ROAD SHALL BE WIDENED TO 24' WIDE AS SHOWN ON PLANS.
5. CONTRACTOR SHALL PROVIDE WHEEL STOPS, STRIPING, HANDICAP PARKING AND TRAFFIC CONTROL SIGNS, AND RAMPAS AS REQUIRED BY FEDERAL, REGULATIONS, TECHNICAL REQUIREMENTS AND DESIGN GUIDELINES.
6. CONTRACTOR TO PERFORM STORM WATER AND DRAINAGE ANALYSIS TO CONFIRM MAXIMUM SWALE SLOPES AND LIMIT PONDING OF WATER IN UNDESIED AREAS.

## KEYED NOTES

- 1 PROJECT LIMITS - BASE BID
- 2 PROJECT LIMITS - OPTION
- 3 CONCRETE CURB AND WALK
- 4 SWALE
- 5 NOT USED
- 6 NOT USED
- 7 LIGHT POLE AND FIXTURE
- 8A SECURITY CAMERA MOUNTED ON POLE (BASE BID)
- 8B SECURITY CAMERA MOUNTED ON POLE (OPTION)
- 9 EXISTING ROADWAY, PARKING AREA, OR DRAINAGE STRUCTURE TO BE DEMOLISHED
- 10 SECURITY CAMERA MOUNTED ON POLE (NIC)
- 11 EXISTING TREE TO BE REMOVED
- 12 SECURITY CAMERA MOUNTED ON BUILDING (NIC)
- 13 SWALE AND CULVERT INDICATED AS PART OF NEW ADMINISTRATION BUILDING PROJECT ARE NO LONGER REQUIRED. COORDINATE WITH ADMINISTRATION BUILDING PROJECT.
- 14 PROVIDE SECURITY GRATE/GRILL PER DESIGN GUIDELINES WHERE CULVERT PASSES UNDER PERIMETER/PROPERTY FENCE LINE.
- 15 WIDENED MECHANICS ROAD
- 16 VALVE BOX FOR WATER LINE
- 17 CONTRACTOR SHALL CROWN MECHANICS ROAD WITH 2% CROSS SLOPE
- 18 ELLIPTICAL CONCRETE CULVERT OR PIPE, CONTRACTOR TO SIZE
- 19 TRANSITION FROM NEW 24' WIDE ASPHALT STREET TO EXISTING PAVEMENT WIDTH BY 15:1 TAPER ASPHALT PAVEMENT.
- 20 SWALE FLOW LINE TO START AT 0.5' BELOW PARKING LOT FINISH GRADE

### LEGEND

-  PROJECT LIMITS - BASE BID  
 PROJECT LIMITS - OPTION  
 DRAINAGE SWALE FLOW LINE AT 1/2% PERCENT SLOPE  
 SHEET DRAINAGE AT A MINIMUM 1% PERCENT SLOPE ON PAVED AREAS  
 EXISTING BUILDINGS TO REMAIN AND NEW BUILDINGS UNDER CONSTRUCTION

**JE JACOBS**

501 North Broadway, Saint Louis, Missouri 63102-2121

Main Parking Lot  
and Entry Road

Port Isabel Detention Center Los Fresnos, TX
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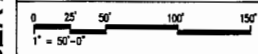
U.S. Department of Homeland Security  
Bureau of Immigration and Customs Enforcement  
Washington, DC



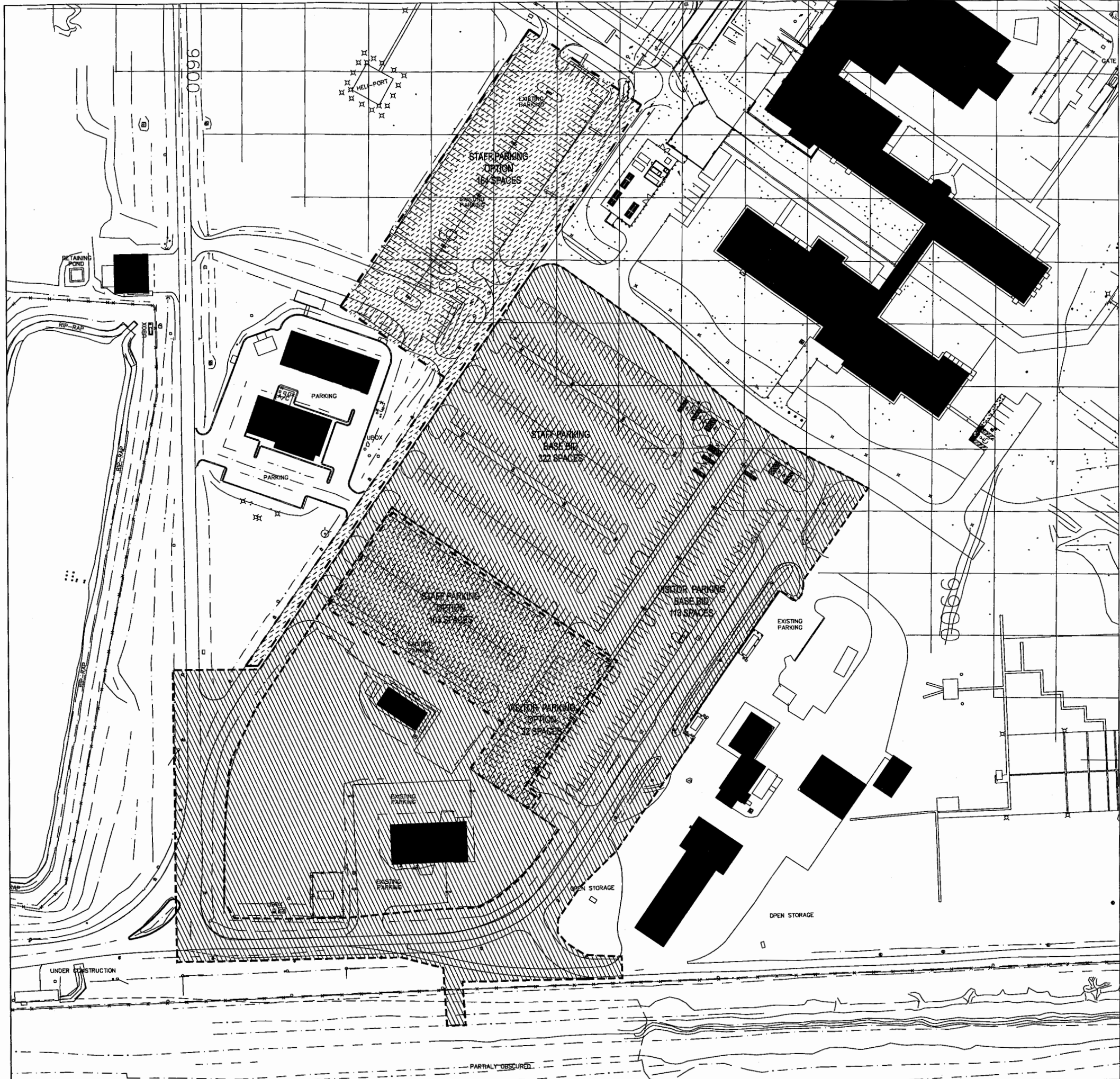
United States Army Corps of Engineers  
Galveston District

**FINAL UPDATED 30 SEPTEMBER 2004**

## GRAPHIC SCALES



NO.		DATE		REVISION	
APPROVALS					
PROJECT NO.		DRAWN BY		CHECKED BY	
FJW50609		JCH		RGW	
				DATE	
				7-1-04	
TITLE					
DRAINAGE SITE PLAN					
DISCIPLINE		SHEET TYPE		SEQUENCE	
C		1		02	
SHEET 3 OF 4					



GENERAL NOTES

PARKING TYPE	PHASE	COUNT
VISITOR	BASE BID	113
VISITOR	OPTION	32
TOTAL		145
STAFF/GOV	BASE BID	322
STAFF	OPTION	267
TOTAL		589
TOTAL PARKING		
VISITOR		145
STAFF		589
GRAND TOTAL		734

LEGEND

- PROJECT LIMITS - BASE BID
- PROJECT LIMITS - OPTION
- EXISTING BUILDINGS TO REMAIN AND NEW BUILDINGS UNDER CONSTRUCTION



501 North Broadway, Saint Louis, Missouri 63102-2121

Main Parking Lot and Entry Road

Port Isabel Detention Center  
Los Fresnos, TX

U.S. Department of Homeland Security  
Bureau of Immigration and Customs Enforcement  
Washington, DC



United States Army Corps of Engineers  
Galveston District

GRAPHIC SCALES



NO. DATE REVISION

APPROVALS

PROJECT NO. F3W50609  
DRAWN BY JCH  
CHECKED BY ROW  
DATE 7-1-04

PARKING COUNT PLAN

DISCIPLINE SHEET TYPE SEQUENCE

C 2 01

SHEET 4 OF 4

FINAL UPDATED 30 SEPTEMBER 2004



## **APPENDIX C**

### **HYDROLOGIC ANALYSIS FOR RUNOFF COMPUTATIONS**



**Main Parking Lot, Port Isabel Detention Center, Los Fresnos, Texas**  
**Hydrologic Analysis for Runoff Computations**  
**Prepared by Justo Pena, Hydraulic Engineer**

**Hydrologic Objective.** The goals of this hydrologic analysis were to use the Rational Method described in the “Texas Department of Transportation (TXDOT) Hydraulic Design Manual, March 2004” to compute runoff in cubic-feet per second (cfs) for the 2-, 5-, and 10-yr frequencies for existing and improved conditions of the Main Parking Lot, Port Isabel Detention Center, Los Fresnos, Texas. The results will be used in conjunction with an Environmental Assessment (EA) report for the project. The runoff computations for improved conditions will consider with and without proposed parking area options for staff and visitors parking areas. The hydrologic analysis is described below.

**Project Site Location.** The project site for the Main Parking Lot, Port Isabel Detention Center is located at approximate coordinates Latitude 26° 09' 15" and Longitude 97° 20' 22" or approximately just south of the Port Isabel-Cameron County Airport. Figures 1 and 2 consist of a general location map and a 1995 aerial photo of the project site, respectively.



**Figure 1 – General Location of Project Site of the Main Parking Lot.**



**Figure 2 – Aerial Photo showing the Project Site Area for the Main Parking Lot.**

**Site Visit.** A site visit was performed of the project area where the existing parking lot is located. The parking area appears to have a relative flat to mild sloping surface and has culvert conveyance to allow for rainfall drainage outflow. The soil type is mostly clay having a low infiltration capacity. The parking lot surface consists of 2 to 4 inch mowed range type grass and has no significant cover. There were no observed significant depressions to allow significant ponding or rainfall runoff storage.

**Rational Method.** The Rational Method described in the TXDOT Hydraulic Design Manual was used for the rainfall runoff computations. The method is applicable for areas less than 200 acres and has traditionally been used for parking lot area runoff computations, when no significant flood storage occurs. The Rational Method is based on the equation  $Q=CIA$  where  $Q$  is discharge in cfs,  $C$  is runoff coefficient,  $I$  is rainfall intensity in inches per hour, and  $A$  is drainage area in acres.

**Runoff Coefficient C.** For the existing parking lot surface area, the runoff coefficient  $C$  for the Rational Method was derived based on observations from the site visit and procedures from the TXDOT Hydraulic Manual, Chapter 5, Section 6, and equation 5-5 as  $C=C_r+C_i+C_v+C_s$ . Using the table titled "Runoff Coefficient for Rural Watersheds" from the respective manual, and equation 5-5, values for  $C_r$ ,  $C_i$ ,  $C_v$ ,  $C_s$  equal to 0.08, 0.08, 0.12, 0.10, respectively, were used to derive an overall  $C$  equal to 0.38. For the improved or with project condition, a  $C$  of 0.95, for asphaltic surface, was derived directly from the table titled "Runoff Coefficients for Urban Watershed" from Chapter 5, Section 6, in the respective manual.

**Precipitation Intensity.** The required hourly rainfall intensity  $I$  for the Rational Method equation  $Q=CIA$  was derived from procedures described in the "USGS Depth-Duration Frequency of Precipitation for Texas, Water-Resources Investigations Report 98-4044, by William H Asquith, Austin, Texas, 1998." First, the duration for the rainfall intensity is required based on the Time of Concentration (TC) for the parking lot area.

The time of concentration used for the rainfall intensity duration was computed with the aid of the program TR-55 version 2.0 developed by "United States Department of Agriculture (USDA), Soil and Conservation Service (SCS)." The TR-55 program uses procedures from "urban hydrology for small watersheds, technical release no. 55," January 1975. The time of concentration is the time it would take for the whole parking lot to contribute runoff to a point of interest. It is therefore the time it would take runoff to travel from the most remote point of the parking lot away from the point of interest. A time of concentration equal to 0.71 hours and 0.31 were computed for existing and improved conditions respectively. Figures 3 and 4 show the computation screens and parameters used in the program TR-55 for existing and future conditions respectively. A year no greater than 1999 was required by the program to function.

The screenshot displays the TR-55 program window with the title bar 'TR55'. The main window contains the following text:

```

TR-55 TIME OF CONCENTRATION AND TRAVEL TIME          Version 2.00
TIME OF CONCENTRATION COMPUTATION
Parking Lot Port Isabel                               COE 05/13/99
Existing Conditions TC Computations                  Cameron,Tx
Subarea # 1 - PrkLot
Tc Flow Type    2 Year    Length    Slope    Surface    n    Area    Wp    Velocity    Time
                Rain      (ft)      (ft/ft)  Code      -    (Sq Ft) (Ft)  (ft/sec)  (hr)
Sheet           3.7      300      .0067     E          -    -        -      -          0.566
Sheet           -        -        -        -          -    -        -      -          -
Shallow Concentrated 600      .0050     U          -    -        -      -          0.146
Shallow Concentrated -        -        -        -          -    -        -      -          -
Open Channel      -        -        -        -          -    -        -      -          -
Open Channel      -        -        -        -          -    -        -      -          -
                                           TOTAL 0.71

--- Sheet Flow Surface Codes ---
A Smooth Surface      F Grass, Dense          --- Shallow Concentrated ---
B Fallow (No Res.)    G Grass, Bermuda       --- Surface Codes      ---
C Cultivated < 20 % Res. H Woods, Light
D Cultivated > 20 % Res. I Woods, Dense
E Grass-Range,Short    J Range, Natural
                        P Paved
                        U Unpaved

Esc$elect  F1Help  F2Print  F3Load  F4$ave  F5DOS  F6Zero

```

Figure 3 - Time of Concentration for Existing Conditions.

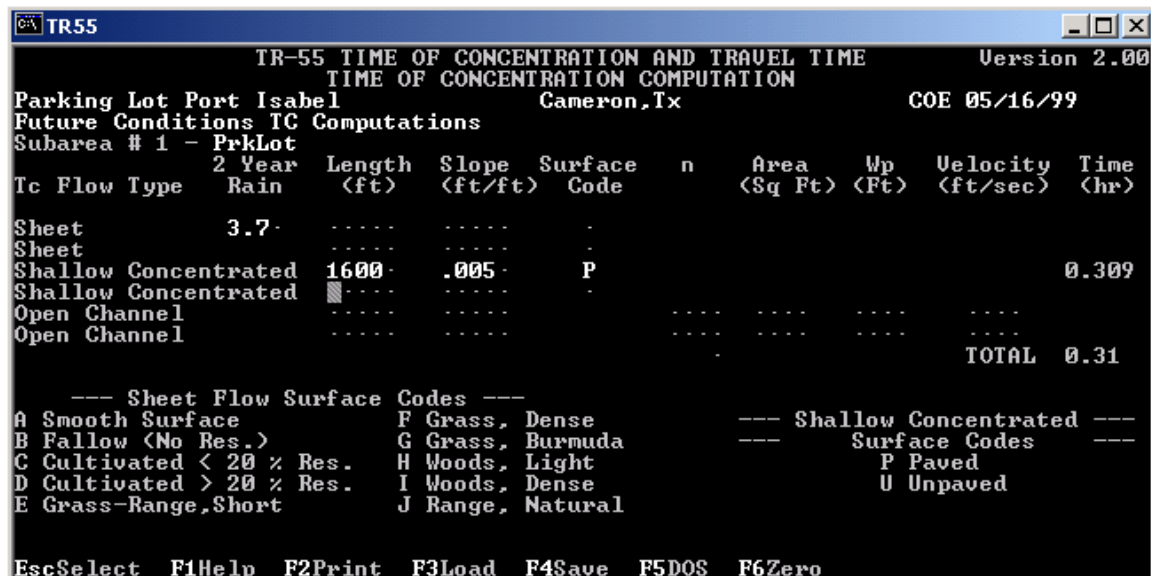


Figure 4 - Time of Concentration for Future Conditions.

With the respective durations determined from computations of time of concentration, rainfall or precipitation depth for a given frequency was computed with equation 10 from the respective USGS report, and then converted to rainfall intensity. Rainfall intensity was computed by dividing the precipitation depth by the rainfall duration in hours. Parameters for equation 10 include non-exceedance probability, the location, scale, and shape parameters, as defined in the USGS report. These parameters can be obtained from figures 10 through 48 in the USGS report. An example calculation is shown below. Using X, F, e, a, and k to define precipitation depth, non-exceedance probability, location, scale, and shape parameters respectively, equation 10 was reformatted for convenience as shown below.

$$X = e + (a/k) \{1 - [(1-F)/F]^k\}$$

As an example, using the above equation, the 2-year precipitation depth and rainfall intensity in inches/hour for a 30 and 60 minute durations were computed as follows:

For 30 minutes: location(e), scale(a), and shape(k) are 1.5, 0.30, -0.103, respectively.

$$X = 1.5 + (0.3/-0.103) \{1 - [(1-0.5)/0.5]^{-0.103}\} = 1.5 + 0 = 1.5 \text{ inches}$$

Therefore, 2 – year rainfall intensity = 1.5 inches/0.5 hours = 3.0 in/hr for 30 min duration.

For 60 minutes: location(e), scale(a), and shape(k) are 1.914, 0.421, -0.150, respectively.

$$X = 1.914 + (0.421/-0.15) \{1 - [(1-0.5)/0.5]^{-0.15}\} = 1.91 + 0 = 1.914 \text{ in}$$

Therefore, 2 – year rainfall intensity = 1.914 inches/1 hour = 1.91 in/hr for 60 min duration.

However, since our actual approximate duration (time of concentration) for the existing parking lot is close to 45 minutes (0.71hr), the 30 minute and 60 minute rainfall intensities were averaged to derive the 2-yr, 45 minute duration intensity equal to **I = 2.46 in/hr**.

Rainfall intensity was computed for the other frequencies and shown in Table 1 for the existing parking lot.

**Table 1 – Existing Parking Lot Precipitation Intensity for Rational Method**

	F	Precipitation Intensity in/hr for 30 min duration	Precipitation Intensity in/hr for 60 min duration	Precipitation Intensity in/hr averaged for 45 min duration
2-yr	0.5	3.00	1.91	2.46
5-yr	0.8	3.90	2.56	3.23
10-yr	0.9	4.48	3.01	3.75

For future condition rainfall intensities, the duration period is based on 15 minutes since a time of concentration of 18 minutes was computed with TR-55, Figure 4.

Table 2 shows the computed rainfall intensities for the improved parking lot.

**Table 2 – Improved Parking Lot Precipitation Intensity for Rational Method**

	F	Precipitation Intensity in/hr for 15 min duration
2-yr	0.5	4.16
5-yr	0.8	5.48
10-yr	0.9	6.32

**Drainage Area.** The contributing drainage area for analysis was based on the existing parking lot area and its adjacent area between Mechanics Road and Avenue B, and between the entrance road on the south side, and the road between the parking lot and the new administration building. Area was measured from the construction plans, dated September 2004, and converted to acres for the Rational Method. A drainage area approximately 10.7 acres was measured within the road boundaries and used for existing or unimproved conditions.

**Drainage Runoff.** With the runoff coefficient (**C**), rainfall intensity (**I**), and drainage (**A**) determined, the drainage runoff **Q** cfs was computed as shown in Table 3 for existing or unimproved conditions. Table 4 includes the improved conditions and is based on the asphaltic surface area of 6.7 acres complimented with the unimproved area equal to 4 acres. The 4-acre unimproved conditions discharge in Table 4 is based on a discharge per acre ratio from Table 3 multiplied by the 4 acres of unimproved area for Table 4. A similar procedure was used in Table 5 to derive the improved conditions with the optional parking spaces in place. No optional parking spaces were considered outside the 10.7-acre area.

**Table 3 Computed Discharges for Existing Conditions**

Frequency	Runoff C	I- Intensity in/hr	Area (ac)	Q cfs
2-yr	0.38	2.48	10.7	10.1
5-yr	0.38	3.23	10.7	13.1
10-yr	0.38	3.75	10.7	15.2

**Table 4 Computed Discharges for Improved Conditions  
Without Parking Options**

Frequency	Runoff C	I- Intensity in/hr	Area (ac) Asphaltic	Q cfs Asphaltic Area	Q cfs Unimproved Area	Total Q cfs
2-yr	0.95	4.16	6.7	26.5	3.8	30.3
5-yr	0.95	5.48	6.7	34.9	4.9	39.8
10-yr	0.95	6.32	6.7	40.2	5.7	45.9

**Table 5 Computed Discharges for Improved Conditions  
With Parking Options**

Frequency	Runoff C	I- Intensity in/hr	Area (ac) Asphaltic	Q Discharge cfs Asphaltic	Q Discharge Unimproved cfs	Total Q cfs
2-yr	0.95	4.16	8.1	32.0	2.5	34.5
5-yr	0.95	5.48	8.1	42.2	3.2	45.4
10-yr	0.95	6.32	8.1	48.6	3.7	52.3

**Summary.** The hydrologic analyses are intended to assist with the EA report. A site visit was performed with the Lead Environmentalist to get a field presence of the project site and to investigate its drainage pattern, soil type, and runoff storage capacity. Discharges for existing and improved conditions were calculated using the Rational Method. The results are tabulated in Tables 3, 4, and 5 with respective key parameters tabulated for the Rational Method. The parameters for the Rational Method are considered sometimes somewhat subjective but the results obtained in this analysis are considered reliable for predicting the estimated runoff for the various frequencies in the analysis. The resulting runoff coefficient for existing conditions was 0.38 and 0.95 for improved conditions. The drainage area used for analysis was 10.7 acres. The maximum discharge computed for improved conditions was 52.3 cfs for the 10-yr frequency and includes the extra parking options within the 10.7-acre area. The maximum discharge for the existing conditions was 15.2 cfs for the 10-yr frequency.

**APPENDIX D**

**THREATENED AND ENDANGERED SPECIES  
CAMERON COUNTY, TEXAS**

## Federally Listed Threatened and Endangered Species For Cameron County, Texas

Common Name	Scientific Name	Listing Status
American alligator	<i>Alligator mississippiensis</i>	DM, SAT
bald eagle	<i>Haliaeetus leucocephalus</i>	AD, T
brown pelican	<i>Pelecanus occidentalis</i>	DM, E
green sea turtle	<i>Chelonia mydas</i>	E, T
Gulf Coast jaguarundi	<i>Herpailurus (=Felis) yagouaroundi cacomitli</i>	E
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E
Kemp's ridley sea turtle	<i>Lepidochelys kempi</i>	E
leatherback sea turtle	<i>Dermochelys coriacea</i>	E
loggerhead sea turtle	<i>Caretta caretta</i>	T
northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E
ocelot	<i>Leopardus (=Felis) pardalis</i>	E
piping Plover	<i>Charadrius melodus</i>	E, T
south Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	E
star cactus	<i>Astrophytum asterias</i>	E
Texas ayenia	<i>Ayenia limitaris</i>	E

Found at USFWS web site: <http://www.fws.gov/fw2es/endangeredspecies/lists/listSpecies.cfm>

### Endangered Species Act Status Codes

E -- Endangered

T -- Threatened

SAT, T(S/A) -- Similarity of Appearance to a Threatened Taxon

DM -- Delisted Taxon, Recovered, Being Monitored First Five Years

AD -- Proposed Delisting

### Federal Listing Status

This field is the current Federal listing status of each species. In the results form for species specific information and in the species listing by state, "listing status" refers to the Federal listing status for the species in the United States. In the species by county results tables you may see a different listing status representing the specific county. For instance, the California condor is Federally listed as endangered in the United States, but is considered an experimental and nonessential population in several counties in Arizona. For more information on listing of species, please contact your local USFWS Ecological Services Field Office.